



LUNG CANCER PREVENTION

What You Need to Know

KNOWLEDGE IS POWER

Lung cancer is the leading cause of cancer death in the U.S. because the disease is often not diagnosed until it's in an advanced stage.

THE GOOD NEWS

Early diagnosis can detect lung cancers at a point when treatment can result in more favorable outcomes. New lung cancer screening protocols for smokers are being implemented, and overall lung cancer cases are decreasing because more people are quitting smoking or not starting.

KNOW YOUR RISK

Understanding your risk factors, talking to your health care providers and knowing what you can do to lower your risk gives you the power to improve your overall health.



RISK FACTORS

SMOKING	Smoking is the number one risk factor for lung cancer accounting for 80 to 90 percent of deaths. How much and how many years you smoke affects your chance of developing lung cancer.
SECONDHAND SMOKE	Breathing in the smoke of others is the third most common cause of lung cancer in the U.S., behind exposure to radon.
CANCER CAUSING AGENTS IN THE ENVIRONMENT	<p>People who work in certain environments, such as mines, mills, textile plants, and shipyards are more likely to be exposed to these agents:</p> <ul style="list-style-type: none"> • Radon • Asbestos • Radioactive ores (e.g., uranium) • Chemicals (e.g., arsenic, beryllium, cadmium, silica, vinyl chloride, nickel compounds, chromium compounds, coal products, mustard gas, chloromethyl ethers) • Diesel exhaust • Talc (a key ingredient in talcum powder)
PERSONAL AND FAMILY HISTORY	If you have had lung cancer, you're more likely to develop another lung cancer. You're also slightly more at risk if a brother, sister or child has had lung cancer.
SMOKING MARIJUANA	Marijuana is not considered tobacco, but it exposes you to some of the same dangers as smoking.
RADIATION TO THE CHEST	People who have had radiation to the chest are more likely to develop lung cancer, especially if they smoke.

SEVERAL MYTHS ALSO CONTRIBUTE TO LUNG CANCER RATES.

MYTH	FACT
Cigar and pipe smoking are better than cigarette smoking.	The risk of lung cancer is almost the same for cigarette, cigar and pipe smokers.
Light and low-tar cigarettes are safer.	These types of cigarettes don't reduce your risk.
Menthol cigarettes are safer.	Menthol may allow you to inhale more deeply, increasing your risk.

SIGNS AND SYMPTOMS

While many cancers offer early warning signs of something wrong, lung cancer symptoms don't usually appear until the disease is well advanced. It's also easy to mistake them for another issue, such as a lung infection or the long-term effects of smoking.

Be sure to discuss any of the following symptoms with your health care provider, especially if you are a smoker or work in an environment where you are exposed to cancer-causing agents.

- Coughing that gets worse or doesn't go away
- Chest pain
- Shortness of breath
- Wheezing
- Hoarseness
- Coughing up blood or rust-colored sputum (spit or phlegm)
- Feeling very tired all the time
- Unexplained weight loss

If you have any signs or symptoms that worry you, be sure to see your health care provider immediately.

SCREENING AND DIAGNOSTIC TOOLS

Research has shown that low-dose computer tomography (LDCT) screening reduces the risk of dying from lung cancer by detecting it earlier and at stages when treatment leads to a favorable outcome.

LDCT scans provide images that reveal small abnormalities in the lung that may indicate cancer. They use about 80% less radiation than a conventional CT scan. If an abnormality is found, your health care provider will advise you on whether additional testing is needed to confirm or exclude the presence of cancer.

LDCT lung cancer screening is recommended for individuals who meet all of the criteria below:

- Are 50 to 80 years old
- Have smoked at least an average of one pack of cigarettes a day for 20 years (20 pack years)
- Are a current or a former smoker who quit less than 15 years ago
- Have no current symptoms (see Signs and Symptoms section)



Pack years are calculated by multiplying the number of packs of cigarettes a person has smoked per day by the number of years they have smoked. You can also use this online calculator. (scan QR for link)

DIAGNOSTIC TOOLS

If your health care provider thinks you might have lung cancer, they will order one or more tests to collect cells to be examined.

THORACENTESIS	If fluid has collected around your lungs, a doctor can remove a sample to determine if cancer is spreading to the lining of the lungs. The doctor will numb your skin and insert a hollow needle between your ribs to collect a fluid sample.
NEEDLE BIOPSY	A hollow needle is used to draw a small sample of cells from a suspicious mass.
BRONCHOSCOPY	A thin, flexible tube (bronchoscope) is threaded through the mouth or nose, down the throat and trachea to look into the airways of your lungs.
SURGERY	Surgery may be done in place of or in addition to a previous diagnostic procedure. This is an inpatient procedure completed under general anesthesia, using small incisions to insert a camera and instruments between the ribs.

NUTRITION AND DIET

It's not yet clear if a healthy diet can protect you from lung cancer, but certain foods can enhance your health, strengthen your immune system and potentially reduce your cancer risk. The following foods are part of a healthy diet:

- At least five servings of fresh fruits and vegetables a day
- Dark, green, leafy vegetables such as kale and broccoli
- Berries and peaches
- Fiber-rich foods such as whole grains, beans and legumes
- Low-fat milk and dairy products
- Plant-based foods
- Fish, especially varieties high in omega-3 fatty acids like salmon and mackerel
- Lean meats and eggs



Foods rich in vitamin D, anti-inflammatory properties and antioxidants have been associated with reduced cancer risk.

GOOD SOURCES OF VITAMIN D	ANTI-INFLAMMATORY	HIGH IN ANTIOXIDANTS
<ul style="list-style-type: none"> • Rainbow trout • Salmon • Light canned tuna • Sardines • Fortified low-fat and skim milk • Unsweetened, fortified soy milk, plain yogurt and kefir • Fortified orange juice 	<ul style="list-style-type: none"> • Tomatoes • Olive oil • Green leafy vegetables like spinach, kale and collards • Fatty fish like salmon, mackerel, tuna and sardines • Strawberries, blueberries, cherries and oranges 	<ul style="list-style-type: none"> • Dark chocolate • Pecans • Blueberries, raspberries and strawberries • Artichokes • Goji berries • Green leafy vegetables like kale and spinach • Red cabbage • Beans, including green beans

OTHER DIETARY TIPS

- Limit foods that are high in sugar.
- Choose unsaturated oils like olive, peanut and canola. Limit the amount you use.
- Avoid foods that are high in salt or fat.
- Eliminate sugar sweetened beverages.
- Avoid highly processed foods and refined grains (e.g., fast food and white bread).
- Avoid processed meats, such as deli meat (cold cuts) and hot dogs.

Sources: Cancer.org, CDC.gov, NIH.gov, Radiologyinfo.org



UMass Memorial Health is the largest not-for-profit health care system in Central Massachusetts with more than 20,000 caregivers and 2,400 physicians, many of whom are members of UMass Memorial Medical Group and Milford Regional Physician Group. We are the clinical partner of UMass Chan Medical School. Our comprehensive system includes UMass Memorial Medical Center, UMass Memorial Health – Harrington, UMass Memorial Health – HealthAlliance-Clinton Hospital, UMass Memorial Health – Marlborough Hospital, UMass Memorial Health – Milford Regional Medical Center and UMass Memorial Health – Community Healthlink. Together, we impact every aspect of life in the region by making health and wellness services available to everyone, at the bedside, in the clinic or community, or even at home, advocating for social equality and providing economic stability and opportunity. There are many ways to heal. We pursue them all. Relentlessly.

Visit www.ummhealth.org.

To find a doctor in your community,
call 855-UMASS-MD (855-862-7763).

UMASS MEMORIAL HEALTH CANCER CENTER

UMass Memorial Health Cancer Center stands with you, and for you, in your fight against cancer and to restore your health.

As a premier provider of cancer care in Massachusetts and New England, our teams of cancer specialists and researchers will work tirelessly to help you navigate diagnosis, treatment, recovery and survivorship. With convenient locations in Central and Metrowest Massachusetts, exceptional care from cancer specialists who truly care about you is close to home. You'll receive personalized care supported by the most advanced treatment options, including clinical trials available for your type of cancer.

Wherever you receive care at UMass Memorial Health — Harrington Hospital in Southbridge; HealthAlliance-Clinton Hospital in Leominster and Fitchburg; Marlborough Hospital; or UMass Memorial Medical Center in Worcester — you will receive the same high-quality and compassionate care in a comfortable and healing environment.

Our Cancer Center team partners with researchers at UMass Chan Medical School to pursue better ways to prevent, diagnose and treat cancer.

UMass Memorial Medical Center is proud to be a member of the Dana-Farber Cancer Care Collaborative and has demonstrated a commitment to excellence in cancer care by meeting Dana-Farber standards and best practices in adult medical oncology.